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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,817	11/15/1999	HARUHIKO NAGAI	2565-187P	7184

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EXAMINER

PARKER, KENNETH

ART UNIT PAPER NUMBER

2871

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/423,817

Applicant(s)

NAGAI ET AL.

Examiner

Kenneth A Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 13-81 is/are pending in the application.
- 4a) Of the above claim(s) 1-8, 13-20, 24-25, 30-31, 36-58, 59-69, 72-73 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23, 29 and 33 is/are allowed.
- 6) ☒ Claim(s) 21, 22, 32, 34, 35, 70, 71 and 74-81 is/are rejected.
- 7) ☒ Claim(s) 60-63 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 34-35, 74-81 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

What "in time sharing" means is unclear, as the terms have no known meaning as used. It appears as though applicant is talking about use of the beams in field sequential manner, and the claims have been examined accordingly.

What "parallel conversion" means is unclear. It appears as though it means collimation, and has been examined accordingly.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 34-35 and 21-22, 26-28, 74-81 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yamamoto (US Patent #5,506,705).**

Yamamoto discloses a field sequential device with LED's and collimation, therefore anticipating the claims. See figure 7, which shows an array of LED's emitting red, green and blue light in a field sequential manner, thereby anticipating the claims.

**Claims 59, 21-22, 26-28, 74-81 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Herbert US Patent # 5926318.**

Herbert discloses an HMD employing an array of plural LEDs, collimation and projection optics, and micromirror devices. Please note the cover figure shows 2 sets of 3 light sources. DMD type devices are described in column 6, lines 16-25 and elsewhere. The language "A... micromirror display device... by Texas Instruments" would have been recognized by one of ordinary skill as the elements known as DMD devices, or digital micromirror devices, as the term "DMD" and "micromirror device" were synonymous, and as the Texas instrument devices were digital, as all of that type device were.

**Claims 65, 70-71, 21-22, 26-28, 74-81 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Handschy et al US Patent #5,808,800.**

Handschy et al discloses a projector with collimation and projection optics (see cover figure) including a 2 dimensional array of LEDs (see figures 6, 7, 7a). Therefore, these claims are anticipated by Handschy et al.

**Claims 34-35 and 21-22, 26-28, 74-81 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Tiao et al 6227669.**

Tiao discloses a field sequential device with LED's and collimation, therefore anticipating the claims. See figures 7-9, which shows an array of LED's emitting light, collimation and image display elements.

#### ***Election/Restrictions***

Claims 59-69, 72-73 have been amended to be electroluminous devices, not LEDs, so were changed to a non-elected species, and therefore are currently withdrawn from consideration.

#### ***Allowable Subject Matter***

Claim 23, 29 and 33 are allowed.

Claims 60-63 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to overcome any rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments are not persuasive.

Regarding the art rejections, both references have multiple dimensional arrays- even though multiple arrayed light sources could be just one of each color- (they would be multiple, and they would be in an array). Regarding the Herbert reference, applicant's assertion that the reference does not disclose DMD type devices is not agreed with for the reasons given above. The rejections under 112 remain as the language has no known or established meaning. Even if it is possible to determine what feature of the specification is referred to, there is still no way to determine the meets and bounds of the language. For example, applicant seems to be implying that the prior art does not meet this language, however why field sequential is not being construed to meet the limitation is not understood. Field sequential is one color per field- isn't that time sharing? Further, taken literally, time sharing would mean at the same time- the opposite of field sequential, as it means the colors share the time, not alternate. Since this would be a reasonable interpretation, the language includes an indefinite number of contradicting possible interpretations. As applicant has not provided a definition of the language, and the specification gives only limited guidance that the language appears to have something to do with field sequential driving, this language is indefinite.

Regarding applicants arguments on there arrayed light sources having particular advantages, they are moot as there is no limitation to define them differently then those arrayed plural light sources of the applied references.

Please note : upon amendment, further restriction is likely as multiple diverse devices are claimed which have non-overlapping searches. The claims have been examined together because they are so generic that multiple anticipatory references could be pulled on many of the claimed, s they were all examined as the burden was limited. However, with each amendment a new search would have to be done, and in if the claims become non-generic, a burden would be likely to be present, and therefore restriction would be required.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Numerous references which appear to be anticipatory in similar veins to those applied have been cited.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Kenneth A Parker  
Primary Examiner  
Art Unit 2871

10/20/03